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REPTILES AND AMPHIBIANS FROM EASTERN SUDAN.

BY T. BARBOUR.

During the past winter (1912–1913) Dr. John C. Phillips of Harvard University conducted an expedition into the Sudanese Province of Sennaar for the purpose of collecting zoölogical specimens, principally mammals and birds, for the Museum of Comparative Zoölogy. He was accompanied by Dr. Glover M. Allen. The small collection of reptiles and amphibians obtained is here reported upon. Both Dr. Phillips and Dr. Allen were disappointed in the number of individuals and species obtained in these groups and remark that they were extremely rare. The probable reason for their scarceness was the fact that the region had suffered severely from a prolonged drought and from many brush and grass fires which had evidently seriously impoverished the entire fauna. Only one new species was obtained by the expedition but the small amount of material in American museums representing the fauna of this region makes it desirable to place all the specimens and the localities whence they came upon record.

REPTILIA.

Sauria.

Tarentola annularis (Geoffroy).

Three enormous specimens of this species were procured at Magangani, from the hollow interior of a large baobab tree.

Lygodactylus picturatus gutturalis (Bocage).

The expedition has returned with a considerable series of these small Gekkos, which they found in the cracks of the bark of various forest trees. Specimens were caught at El Mesherat, Abu Zor, and 15 miles above Roseires, on the Blue Nile. These specimens are evidently referable to *gutturalis*, which is distinguished from the true *picturatus* by

having chevron-shaped black markings in the gular region of the males instead of having a throat which is wholly black, as in the other race. Since specimens in the Museum from Zanzibar and the Guaso Nyiro district in British East Africa show a perfectly transitional condition so far as the color of their throats is concerned, it seems best not to consider the two races distinct species, but to follow Werner (l. c., p. 1838) in using a trinomial for the Sudanese specimens. The other characters separating the species are not apparently very important, and probably vary. Unfortunately I have no specimens of *L. capensis* to study in connection with these specimens.

Agama spinosa Gray.

Dr. Phillips and Dr. Allen met with this species commonly throughout their journey, and it was apparently the only member of the genus that they procured. The series preserved consists of 6 specimens from Singa, 4 specimens from Gabbardi, and 8 specimens from Fazogli. These specimens are, for the most part, of small size, the largest specimen being but 200 mm. long, though part of the tail is lacking. Owing to the coloration of many of the individuals, which very frequently is like that described by Boulenger for *A. hartmanni* Peters (Cat. Liz. Brit. Mus., I, 1885, p. 340), I supposed at first sight that I had to do with this species. All the examples before me, however, have the enlarged occipital, and otherwise agree with the description of this species as given by Boulenger (l. c., p. 355).

Werner has contributed recently a long discussion regarding the status of *A. hartmanni* Peters in relation to *A. doriae* Boulenger and *A. colonorum* Daudin. From what he writes, it is somewhat difficult to gather whether he considers these species all distinct or all to be included in *A. colonorum*. I find it almost impossible to determine the impression he wishes to convey; for in his paper of 1907, on the reptiles and amphibians that he himself collected in the Egyptian Sudan and northern Uganda (Sitz. Ak. d. Wissens. Wien, 116, i, 1907, p. 1837) he says: "Ich kann dennach der *A. doriae* keinerlei spezifische Selbstandigkeit zusprechen und muss sie mit *A. colonorum* vereinigen." On the previous page, however, speaking of the type of *A. hartmanni*, which he examined in Berlin, he says: "Das Exemplar hat entschieden nicht den Habitus der Agamen aus der *spinosa-colonorum* Gruppe, sondern mehr den der deserticolen Gruppe I bei Boulenger." But a few lines further on he says again: "Ist aber *A. hartmanni* mit *A. doriae* identisch, so ist dasselbe zicherlich auch mit *A. doriae* und *colonorum* der Fall, und zwar sprechen dafur sowohl morphologische als geographischer Gründe," while on the following page he names all three separately in his faunistic lists of species. The material which I have at hand is not sufficient to settle this question, which I imagine is still an open one.

Latastia longicaudata (Reuss).

A single specimen, almost adult, found at Singa, the present capital of the Province of Sennaar. This specimen is much more brilliantly colored

than others which were brought back from British East Africa by the Smith Allen and Brooks, and the Frick expeditions, which were accompanied respectively by Dr. Allen and Mr. W. R. Zappey. These specimens are pale brown with lighter lines and had bluish or mauve marblings or ocelli upon the sides between distinct vertical black bars. The specimen from Singa is dark brown, with fine longitudinal light lines upon the back, a series of white spots along the sides with black interspaces, forming irregularly vertical bars, and with bluish spots on a black band above the series of white spots. The legs are dark, almost black, marbled with bluish. In all characters of squamation, however, the individuals seem to be entirely indistinguishable; and with only a single Sudanese specimen, it is quite impossible to say whether a local color variety exists in the region. There can be no doubt but that the coloration is sufficient to characterize one were it found to be constant.

Chalcides ocellatus Forskal.

A single beautifully colored adult, caught at Bados.

Mabuya quinquetaeniata (Lichtenstein).

This wide-ranging and common species was found at almost all localities visited, and typical examples of both young and adults were secured. The brilliant blue tail of the young is very striking, recalling that of certain American species of Eumeces and East Indian species of what may be called for convenience Lygosoma. This blue tail-color is probably an ancient ancestral character, since it can certainly have no protective or other value to the young which it would not have equally for the adult. It is probably comparable in a way to the breast spotting seen in the young of various thrushes not very closely related to each other, and to other similar astonishingly well-fixed color characters which are so different from those one is accustomed to find among species of reptiles especially. Frequently the variability of coloration in some familiar species is inclined to lead one away from realizing what a fundamental phylogenetic significance some color characters have even in reptiles.

RHIPTOGLOSSA.

Chamaeleo basiliscus Cope.

This species was found only once, when, at Magangani, a single specimen was procured. This specimen, which is an adult, I have compared carefully with the type of *basiliscus*, M. C. Z. No. 5766 from Nubia. I find that they agree in every particular.

SERPENTES.

Zamenis florulentus (Geoffroy).

A single example from Gebel Okalma. It is slightly atypical in having 23 instead of 21 rows of scales. Boulenger states that this is a rare condition.

Psammophis sibilans (Linne).

One specimen from Um Orug; one from Magangani; and a third from Fazogli. These three examples differ considerably from one another in coloration, and, with other specimens in the Museum, show that there is apparently no relationship whatever between type of coloration and distribution. The various color patterns seem to occur indiscriminately throughout the entire range of the species.

Atractaspis phillipsi sp. nov.

Type.—A single young specimen, Mus. Comp. Zool. No. 8782, from Singa, Province of Sennaar, eastern Anglo-Egyptian Sudan, collected by Dr. J. C. Phillips and Dr. G. M. Allen, February, 1913.

This species belongs in that section of the genus which has the anal as well as the subcaudals all entire, the postocular in contact with a large temporal, the fourth lower labial largest and the first lower labial in contact with its fellow behind the symphysial.

Snout rounded; portion of rostral visible from above, considerably shorter than its distance from the frontal; suture between the internasals rather shorter than that between the praefrontals; frontal slightly longer than broad, longer than its distance from the end of the snout, as long as the parietals; one prae- and one post-ocular; a large temporal wedged down between the fourth and fifth upper labials, which are six in number, the fourth alone entering the orbit, the fourth also the largest scale in the series; first lower labial in contact with its fellow behind the symphysial; three lower labials in contact with the chin-shields, the fourth lower labial the largest. Scales in 31 rows. Ventrals 232; anal entire; subcaudals 24, all single. Body solid black above, head very dark iron gray; belly deep plum color, almost black; vent white. Length, 290 mm.; tail, 22 mm.

Remarks.—I am unable to find any record for this genus nearer than Ogaden, Somaliland, the type locality of *A. leucomelas* Blgr., or Wadelai, whence there are specimens in the British Museum of both *A. irregularis* (Reinh.) and *A. atterima* Jan. Dr. Franz Werner (Sitzb. d. ak. Wissens., Wien, 116, i, 1907, p. 1823–1926, pl. 1–4), in the report upon the reptiles and amphibians which he collected on his journey to the Egyptian Sudan and northern Uganda, has brought together the various records for this region, bringing the list down to 1907. His only mention of the occurrence of this genus in the Sudan is in reference to the two specimens from Wadelai, which were collected by Emin Pacha, and which are now in the British Museum. Dr. Phillips's discovery of this genus in the province of Sennaar extends greatly its known range, and adds an important tropical genus to the fauna as we have known it heretofore. It is altogether proper that this species should bear his name.

Since this was written I have received Werner's revision of the entire genus and can not find that anything very closely related to this form is now known. (Werner, Mit. Naturh. Mus. Hamburg, 30, 1913, pp. 31–39.)

AMPHIBIA.

Rana mascareniensis Duméril & Bibron.

Three specimens from Gizeh, Egypt, fall into this species as it is restricted by Werner (l. c. p. 1889).

Phrynobatrachus natalensis (Smith).

Seven examples from a pool in the dried up Dinder River, at Abiad. The series shows the usual variation in color, some having and others lacking the conspicuous vertebral stripe.

Bufo regularis Reuss.

The expedition secured a number of young toads, apparently referable to this species, at Luxor, Egypt.